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A Management Decision

CASSIA LODGEPOLE

1976

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Dead Lodgepole Pine — Cassia Division
Sawtooth National Forest
Intermountain Region

Introduction

Can the substantial area of decadent commercial timberland within the Cassia Division of the Sawtooth National Forest be returned to production? If so, what will be the benefits?

Answers to these questions are provided in this proposal for managing decadent timber on the Cassia Division. The proposal is consistent with the timber harvest program for the Sawtooth National Forest which has the following objectives:

— Utilize the available wood fiber in mature and overmature green and dead sawtimber.

— Reduce the fuel loading and fire hazard.

— Maintain existing recreation opportunities.

— Increase site productivity and maintain current supply of wood.

— Reduce tree mortality to mountain pine beetle.

— Minimize impacts on other resources.

The program proposal conforms to the recent **Western Forest Insect Issue Study, National Forests in a Quality Environment Action Plan,** and **The Report of Close Timber Utilization Committee.**

The Comptroller General's report to the Congress on October 5, 1973, stated that "more useable dead or damaged trees should be salvaged to help meet timber demand." Subsequently, the Department of Agriculture ordered the Forest Service to (1) require Regional Foresters to assure an aggressive mortality harvest program, (2) increase the use of damaged and dead trees, and (3) simplify sale procedures.

Forest Service resource managers believe this approach to managing Cassia lodgepole is a good investment and will result in many benefits.

The Problem

30 percent of Cassia is dead

About 115 million board feet out of 389 million board feet (9" d.b.h. or larger) of usable coniferous wood fiber on the Cassia Division is dead. With one-third of the merchantable-sized stems dead, Cassia stands have an unpleasing appearance. They also add to the fuel for forest fires.

Dead and dying lodgepole pine trees are gradually closing stands to other resource uses, such as wildlife habitat, livestock grazing, and recreation. Many stands are impenetrable due to jack-strawed deadfalls.

Supplemental Data

Young Stand Characteristics

In the Cassia Division, lodgepole pine cones are serotinous. Consequently, "doghair" stands develop in many areas that have burned during the past 35 years. Because of density, they are undesirable for timber, wildlife, grazing, and recreation, but their growth potential has been underrated for many years.

Young stand impassable to game, livestock, and recreation use. Stagnation, self thinning, and fuel loading are increasing. Trees within stands that have been released naturally show excellent growth potential.

Thickets of seedlings after the 1966 Magic Burn contain 150 stems per square foot. Unseen is the large volume of deadwood that prohibits equipment use.

This road is typical. Complete reconstruction is needed.

Inadequate transportation system

Throughout the Cassia Division, low-standard, low-volume roads connect the main roads, providing access to nearly every area. However, all roads have deteriorated to the point of being difficult or impossible to maintain. Traffic is riding on bedrock in many places. Due to the loss of material, miles of roadbeds are lower than the surrounding area.

Industry Situation

A vigorous and efficient forest products industry is needed to use available Cassia wood.

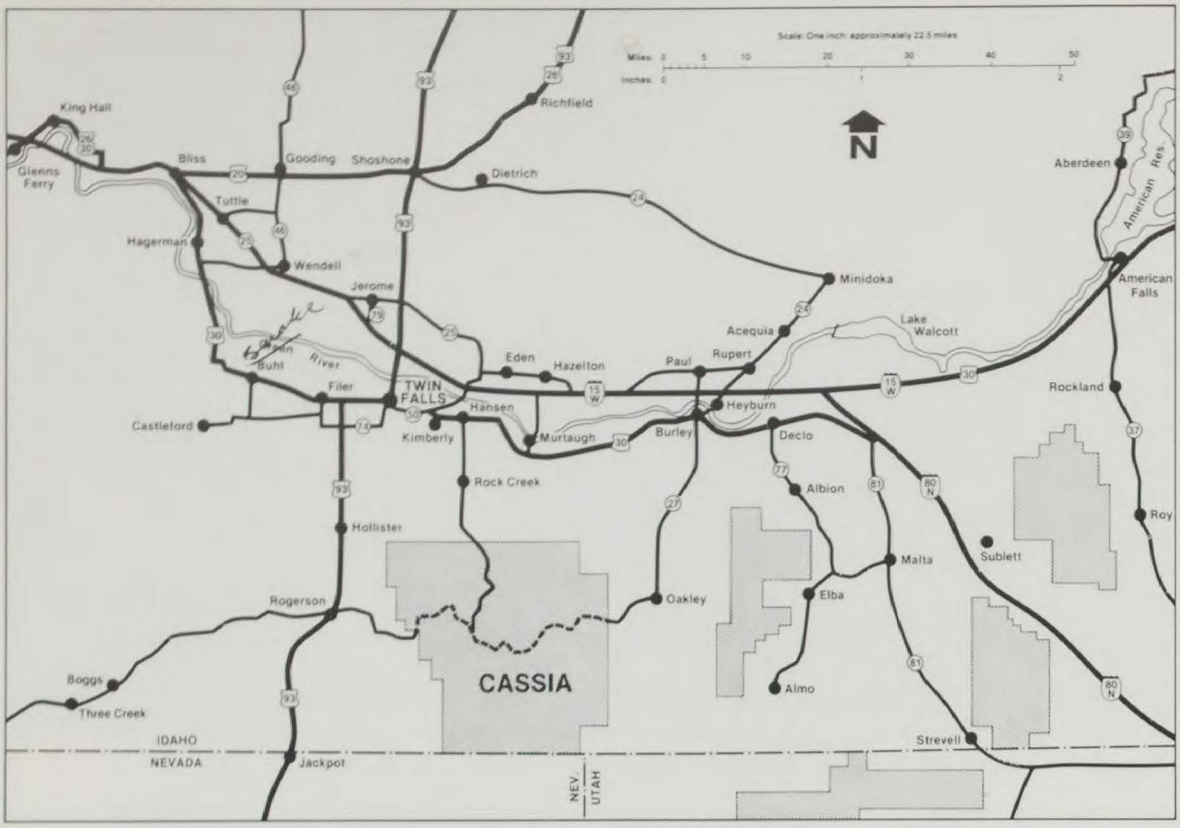
Some Cassia timber is now used for posts and poles, fuelwood and a small amount of sawtimber.

Since the 1974-75 winter, interest by the forest industry has grown. Major well established companies in Idaho, Oregon, and Montana have expressed sincere interest in harvesting this distressed lodgepole pine. Representatives of these companies have reviewed Cassia timber stands at the site and offered meaningful suggestions for sale offerings. Industry has never before shown such interest in Cassia timber. The reasons for it now may be overbidding and competition for sales elsewhere.

Major manufacturing facilities in south-central Idaho are over 100 miles from the Cassia Division and are not capable of milling small timber.

We should not wait until most of the timber is dead before utilizing it. The sooner a sale package is offered, and a mill is established, the more live timber will be in the sales to help support necessary costs.

Additional Forest Service funds are also needed and probably are forthcoming for road reconstruction, program preparation and administration. Then, a firm volume commitment can be made to industry.



General information

Insect: Mountain pine beetle, *Dendroctonus ponderosae* Hopkins.

Host Tree: Lodgepole pine, *Pinus contorta* Douglas.

Location: Cassia Division of the Sawtooth National Forest.

Type of Damage: Killing of mature and overmature trees. Age class 80 to 120 years.

Extent of Epidemic: Throughout approximately 22,000 acres of lodgepole pine sawtimber (9 inches d.b.h. plus) type.

Character of Stands: Stands on Cassia are different from the endless contiguous lodgepole type on other areas. Total acreage is comprised of hundreds of isolated individual stands, at high elevation, separated by wide expanses of grass-sagebrush or aspen type. Losses are variable, intermittent, and occur over longer periods of time.

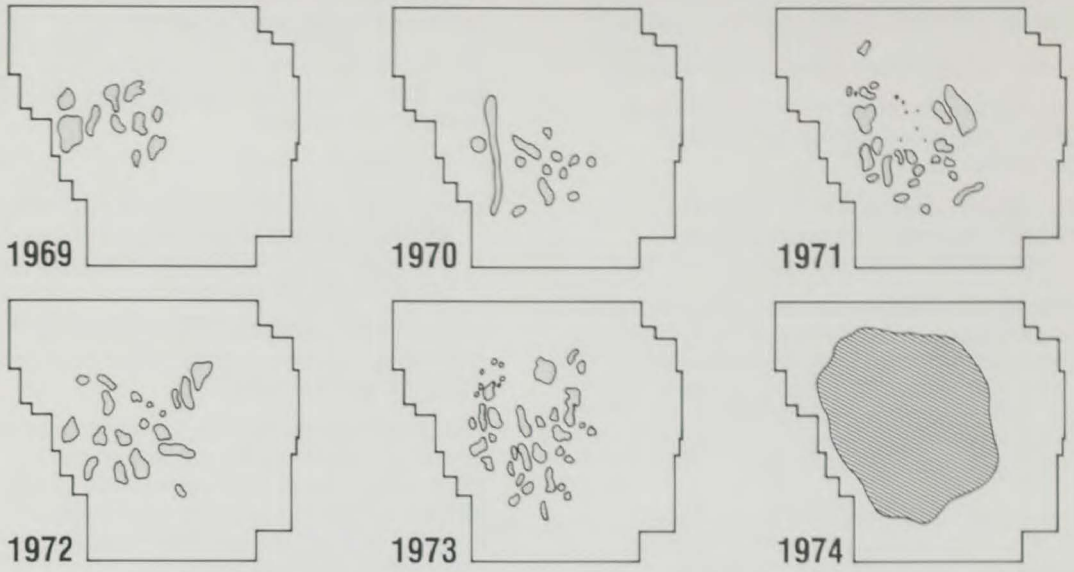
Fuel Loading: 47-107 tons/acre — Does not include standing dead or green trees.

Mistletoe: Incidence is heavy in most mature and overmature stands. Damage by dwarfmistletoe falls into the following four general categories:

1. Increased Tree Mortality
2. Growth Reduction
3. Quality Reduction
4. Reduction of Vigor of Regeneration

Also, heavy mistletoe infection predisposes trees to attack by bark beetles, wood decay, root diseases as well as windthrow and breakage. Large brooms constitute a special fire hazard.

Since 1969, annual aerial insect reconnaissance flights have been made to map the beetle infestation. The maps below show newly infested areas for each year indicating the extent of infestation and the rate of spread.



EXCERPTS FROM THE 1975 ON-THE-GROUND EVALUATION OF THE MOUNTAIN PINE BEETLE — CASSIA DIVISION

TABLE I

Breakdown of stand data shows the 1975 volumes for each tree classification:

Sawtimber Volumes — Board Feet per Acre

Current Live	Dead 1974	Dead 1975	Older Dead	Total
12,470	1,076	925	3,231	17,702

Total Estimated Board Foot Volumes on 22,000 Acres

Live	1974	1975	Older Dead	Total
274,340,000	23,672,000	20,350,000	71,082,000	389,444,000

TABLE II

Projects the 50 percent loss by years showing live and dead volumes at the end of each year through 1980 when the epidemic is expected to climax.

Live	1976 Dead	Total
274,340,000	115,104,000	389,444,000
	1977 (– 21 MMBF)*	
253,340,000	136,104,000	389,444,000
	1978 (– 21 MMBF)	
232,340,000	157,104,000	389,444,000
	1979 (– 21 MMBF)	
211,340,000	178,104,000	389,444,000
	1980 (– 16.6 MMBF)	
194,722,000	194,722,000	389,444,000

**An arithmetic decrease (beetle loss) of 21 MMBF annually is realistic under Cassia conditions. This is approximately the average loss recorded in 1974 and 1975.*

Proposed action

An environmental and esthetic liability can be converted into a wide range of benefits.

The proposed program has a dual challenge:

— To improve the removal and utilization of the total wood resource, leaving less residue.

— To reduce adverse environmental impacts of timber harvesting, road construction and other related activities.

Marketing of wood fiber is critical to forest management; without markets there is no harvest. Forest industry in Magic Valley must be diverse and flexible to respond rapidly to changing demands. Multi-product sales will be considered when market conditions are favorable.

The proposed action is to offer to sell in the first year 80 million board feet, and in the fifth year begin offering 15 million board feet annually for the remainder of a 10-year period. This volume should attract industry. Accelerated upgrading of the road system is needed to facilitate operations with minimum interference with other users.

Through close timber utilization and improved markets for wood products, the program could be extended for 5, 10, or more years. Close utilization will effect significant biological and esthetic improvements in the forest ecology and will enhance future management.

The program indicates the level of road funding needed to implement the 10-year action plan, and establish improved transportation systems. The harvest of dead, mature, and overmature sawtimber will put growth and mortality into better balance and will increase fiber supply without reducing growing stock.

Especially needed are environmentally compatible harvesting methods and transportation systems.

An Environmental Analysis Report, including the decision that an Environmental Statement is not needed for this proposal, has been prepared by the Sawtooth National Forest.

Roads — the key

Timber harvest is largely dependent on an improved transportation system.

The Rock Creek Road will be the main haul road. Reconstruction of the unpaved portion will involve:

— Surfacing.

— Spot improvement to provide a minimum 22-foot finished travelway, adequate drainage for maintenance, and safety for other forest users.

The work will be done by public works contracts. Cost estimates range between $220,000 and $363,000.

The Oakley-Rogerson Road would become one of the main feeder roads into the Rock Creek Road. Reconstruction by the timber purchaser — under purchaser credit, public works contract, and force account — will consist of:

— Placing additional culverts and ditches for good drainage.

— New alignment of some sections for safety.

— Providing turnouts.

Other permanent roads will feed into the two main access roads. These will depend on areas being cut and the sequence of the sales. The roads will be upgraded to a prudent hauling standard for the current and future sale needs.

Temporary roads that serve cutting units will be closed following harvest. The mileage of this class of road will be kept to a minimum.

Additional wood fiber production foreseen with more intensive management

The production potential (see following page) on Cassia is very high on most sites. This potential should not be overshadowed by the need for utilization of the larger timber. Intensive management through timber stand improvement will effect full realization of the potential. Growing conditions are especially favorable in the young stands resulting from post and pole harvest and wildfire. Many of these areas have been inventoried, and planning is progressing toward an effective timber stand improvement program.

A stand of lodgepole pine on Piney Cabin Burn area that was precommercially thinned in the summer of 1975 using 6- to 8-foot spacing. Intermediate post and pole harvest is probable in 30 to 35 years. Slash remains as a fire hazard which could destroy the investment. Planning should include fuel management. In the background is a decadent stand susceptible to fire.

Dwarfmistletoe control will be incorporated with silvicultural practices in lodgepole pine management on the Cassia Division. This is the most practical and economical way to combat this parasite in the infected stands. One objective in the sale areas will be to obtain and retain new stands free of dwarfmistletoe.

Regeneration costs will be minimal if cone serotiny is handled properly in the disposal of logging residues.

CROSS SECTIONS OF LODGEPOLE PINE GROWTH POTENTIAL WITH MANAGEMENT

Current condition on a portion of the Magic Burn (1966). For a tree with little competition, shows dominant tree growth which will soon suppress and stagnate smaller ones. X-Section taken at 4.5 feet above ground (d.b.h.).

TABLE III

Volume & transportation summary

Year	Offering of Sawtimber Volume MMBF	Road Construction and Reconstruction
1	80	$500,000*
2	—	200,000*
3	—	100,000**
4	—	70,000**
5	15	30,000***
6	15	20,000***
7	15	25,000***
8	15	15,000***
9	15	10,000***
10	15	8,000***

*Public Works Contract
**Supplemental
***Purchaser Credit

Summary

Forest Service resource managers believe a timber harvest program on the Cassia Division is a good investment and expect the following benefits:

- Forest lands restored to high productivity.
- Recovery of environmental and economic values being lost.
- Creation of an asset from an environmental and esthetic liability.
- Increased returns to counties through their share of timber receipts.
- Increased local employment opportunities.
- Reduced risk of large fires.

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